

Abstract

A permanent magnet electric motor 10 comprises a rotor 30 provided with two stages of permanent magnets in the axial direction on an outer circumferential face of a rotor iron core, and having a shaft shifted by a stage skew angle θ_r in electrical angle to decrease a first frequency component of cogging torque in the circumferential direction of the rotor iron core between two stages of the permanent magnets, a stator iron core 21 of cylindrical shape provided with the stator winding for producing a rotating magnetic field causing the rotor 30 to be rotated, and a stator 20 dividing the stator iron core 21 into plural blocks in the axial direction, and shifted by a stage skew angle θ_s in electrical angle to decrease a second frequency component of the cogging torque in the circumferential direction of the stator iron core 21.